



Figure 1A + 1B

1 GCAGAGGTAG GCAGGGTTCC CGAGCCGCTC TCCC GGCTCC CTGCTCTGGG
 51 CCTTGGGGCT CCACCGGCTT CTTGGCCCGA GCTGCTGCGC GTGCAGATGG
 101 CCTTGCGCGA TCGCCGGACC CCGCTGCGGT GGCCAAGTGC AGGGCTTGTG
 151 GCTGGGACCC CTGAGAACCA GGAGCCAGAC TGTGCTCAGC TTGCCAGGCC
 201 GGAGCCACGC ACGGGCACAA GTCTGTCAGG CCGCCATCAG TCCTGGTCCA
 251 GCCGTCAGGG CCCATCCGAC CGTCGGCGAT GTTTTATTTT CACTGCCCCG
 301 CACAGCTAGA GGGCACAGCG CCTTTTGGTA ACCACTCTAC GGGGGATTTT
 351 GATGATGGGT TTCTTAGAAG AAAACAGCGC AGAAATCGGA CAACCTTCGC
 401 TCTTCAGCAG TTGGAAGCTC TGGAGGCAGT CTTTGCCCAA ACACACTACC
 451 CAGATGTCTT CACCAGAGAA GAGCTAGCCA TGAAAATAAA CCTCACAGAA
 501 GCCAGAGTGC AGGTTTGGTT CCAGAACCGA AGAGCCAAGT GGAGGAAGAC
 551 AGAGAGAGGG GCCTCTGACC AGGAACCAGG GGCTAAGGAA CCCATGGCAG
 601 AGGTGACACC ACCCCCAGTG AGGAACATCA ACTCTCCACC CCCAGGGGAC
 651 CAGGCCCCGG GCAAGAAGGA GGCCCTGGAG GCCCAGCAGA GCCTGGGACG
 701 CACAGTGGGC CCCGCCGGGC CTTTCTTCCC CTCCTGCTTG CCAGGGACCC
 751 TCCTGAACAC AGCCACTTAT GCCCAGGCCC TGTCCCATGT GGCATCTCTG
 801 AAAGGGGGCC CACTGTGCTC TTGCTGCGTC CCAGACCCTA TGGGGCTCTC
 851 CTTCTCTCCC ACTTACGGTT GCCAGAGTAA CCGCACAGCC AGCGTGGCTG
 901 CCCTGCGCAT GAAGGCCCCG GAGCATTCAG AAGCGGTCCT GCAGTCTGCC
 951 AACCTTCTGC CGTCCACCAG CAGCAGCCCC GGCCCTGCCT CCAAGCAGGT
 1001 GCCTCCAGAA GGCAGCCAGG ACAAGCCCTC CCCAACGAAG GAACAGAGCG
 1051 AGGGAGAGAA GAGCGTATGA GGGTCCGGAG AACCCAGCTG GGAGCCCTGC
 1101 CCACCCCTGC TTCTCTCAGC CTCAGCCCTG CCAGCCTCTG AACCACAAGG
 1151 AGTAGCCACC TCCTCATGGA TCTGACAGGG CAAACGGGAC CTGCAAGCTG
 1201 GTTGAGACCT GAAGAGTCCC TCTAGAATTC TGCTGGTAGG CTGTGTTGTT
 1251 CTCGCTTTTC CTTTGGTGAC ATTTTCCGAT GGCTCTTAGT GACTCTGGAC
 1301 ACTGCTCTGT GATGAGGTCC CTGTTTTTTG CTTTTTGTTT TGTCTCTTTT
 1351 TTTTTGTTTT GTTTTGTTTT ATTTTCCAGG CCAAGCAGCC TTGGAGCAAA
 1401 GCAGATTAGT TTATTCCACC ATCCTTCTTG AGATATCTGG GAAGGTCTTG
 1451 TCAATTCCAA GGACTGTGGC AAGGATCATC CGTGAAAGAT GCCAAGAAGT
 1501 GACATCTCAT GACAGGAAAT GAGACGGGCA CTCCCATATT GCTTAAGAAC
 1551 CACAGAACTG GTGGACTATC AGCCAGTTCT CACTCCCTTC AGCCAGGACT

1601 GGCATCGGCC TCCTTTGTCT TGTTTAAAGG AATTAGCTGA GGTTTTGGCT
1651 AGGAAGTGAC AAGATATGGG CTGAAGACAT TGTGGTCCTG ACCCTAGCAG
1701 ATCTCCCTGG GCACATCTGA CCTGGTCCAG TCAGGCAGGT TGTCAGTTCTG
1751 GGGATGGGGG CTGCTCTGCT GATTCTGTGT GTGGGTTCCTG TGCAATTAGA
1801 GTGTTCACTT GCAGGCCCCG CTCTCTTCAG AAGAGTGATG GGAAGTTCAC
1851 CAATCAGAAT GTAGCTTTGT AGCCCAGGAA AGGACCAGAG TCCTTGAAGC
1901 GGTAGGAAAT CCCTAGGAAG GCCCCTTAAA TACTTATGCC CAGATGAGCT
1951 GCCCTTCTTC CTATCCCCGT ATGTCGAGAG GTTGACGAGA CAGGAAAGCC
2001 AGGAAGATGA CTCCGTGTGG CAGAAGAGAA TGGAGTCCAA AGGGCCAAC
2051 TTCACAGAGA TTTCTGCCGC AGTTTAGCGT GGCTGTGTTC TTTCACGCGA
2101 TGGTGACTTC GGAGAGATCA GAGGGAGATG TGCAATAGCA TGAGCCCCGC
2151 TCCTGGCCCCG GGTCTTGGAA AGGTTGTGGT TGTTTGGTGG CTTTGGCTGA
2201 TGATGTTTCC ACGCAAACAG ATATTGCTTT CATGATGGCT GTTCTCATTT
2251 CAGTTCTGAT AATCGAGACG CTGTGCTCCC AGGCGCTCTG CCTCCCCCTTA
2301 ACTCTTCAGG AGCACCCCT CCCCTGTAAT ACTCCTAAGT GTATCGTGCC
2351 TCACTTACGG TTAAGTCAAC ACATTTGATG GAACACACTG TCTCCTTTAA
2401 AAAAGAAAAA AAAAAAAAAA AAAA

Fig 2B

A MFYFHCPPQLEGTAFFGNHSTGDFDDGFLR 30
 RKQRRNRTTFALQQLEALEAVFAQTHYPDV 60
 FTREELAMKINLTEARVQVWFQNRRAKWRK 90
 TERGASDQEPGAKEPMAEVTPPPVRNINSP 120
 PPGDQARGKKEALEAQQLGRTVGPAGPFF 150
 PSCLPGTLLNTATYAQALSHVASLKGGPLC 180
 SCCVPDPMGLSFLPTYGCQSNRTASVAALR 210
 MKAREHSEAVLQSANLLPSTSSSPGPASKQ 240
 VPPEGSQDKPSPTKEQSEGEKSV* 264

Figure 3

Drg11	G	F	L	R	R	K	Q	R	R	N	R	T	T	F	A	L	Q	Q	L	E	A	L	E	A	V	F	A	Q	T	H	Y	P	D	V	F	T	R	E	E	L	A	M	K	I	N	L	T	E	A	R	50	
Phox2	L	H	E	K	R	K	Q	R	R	I	R	T	T	F	T	S	A	Q	L	K	E	L	E	R	V	F	A	E	T	H	Y	P	D	I	Y	T	R	E	E	L	A	L	K	I	D	L	T	E	A	R	50	
Pax3	L	P	L	K	R	K	Q	R	R	S	R	T	T	F	T	A	E	Q	L	E	E	L	E	R	A	F	E	R	T	H	Y	P	D	I	Y	T	R	E	E	L	A	Q	R	A	K	L	T	E	A	R	50	
Cart1	N	V	S	S	S	K	K	R	R	H	R	T	T	F	T	S	L	Q	L	E	E	L	E	K	V	F	Q	K	T	H	Y	P	D	V	Y	V	R	E	Q	L	A	L	R	T	E	L	T	E	A	R	50	
Phox1	E	K	K	K	R	K	Q	R	R	N	R	T	T	F	N	S	S	Q	L	Q	A	L	E	R	V	F	E	R	T	H	Y	P	D	A	F	V	R	E	D	L	A	R	R	V	N	L	T	E	A	R	50	
S8	T	K	R	K	K	Q	R	R	N	R	T	T	F	N	S	S	Q	L	Q	A	L	E	R	V	F	E	R	T	H	Y	P	D	A	F	V	R	E	E	L	A	R	R	V	N	L	S	E	A	R	50		
Pax6	L	Q	L	K	R	K	L	Q	R	N	R	T	S	F	T	S	Q	L	E	E	L	E	K	A	F	S	R	T	H	Y	P	D	V	F	T	R	E	E	L	A	M	K	I	G	L	T	E	A	R	50		
Dal	Y	A	P	K	R	K	Q	R	R	Y	R	T	T	F	T	S	F	Q	L	E	E	L	E	K	A	F	S	R	T	H	Y	P	D	V	F	T	R	E	E	L	A	Q	R	T	N	L	T	E	A	R	50	
Dprd	I	A	L	K	R	K	Q	R	R	C	R	T	T	F	T	S	A	S	Q	L	E	E	L	E	R	A	F	E	R	T	Q	Y	P	D	I	Y	T	R	E	E	L	A	Q	R	T	N	L	T	E	A	R	50
Drepo	D	P	N	G	I	K	K	K	K	T	R	T	T	F	T	A	Y	Q	L	E	E	L	E	R	A	F	E	R	A	P	Y	P	D	V	F	A	R	E	E	L	A	I	K	L	N	L	S	E	S	R	50	
Cunc4	G	E	S	A	A	K	R	R	R	T	R	T	N	F	S	G	W	Q	L	E	E	L	E	S	A	F	E	A	S	H	Y	P	D	V	F	M	R	E	A	L	A	M	R	L	D	L	L	E	S	R	50	

Drg11	V	Q	V	W	F	Q	N	R	R	A	K	W	R	K	T	E	R	G	A	S	70
Phox2	V	Q	V	W	F	Q	N	R	R	A	K	F	R	K	Q	E	R	A	A	S	70
Pax3	V	Q	V	W	F	S	N	R	R	A	R	W	R	K	Q	A	G	A	N	Q	70
Cart1	V	Q	V	W	F	Q	N	R	R	A	K	W	R	K	R	E	R	Y	G	Q	70
Phox1	V	Q	V	W	F	Q	N	R	R	A	K	F	R	R	N	E	R	A	M	L	70
S8	V	Q	V	W	F	Q	N	R	R	A	K	F	R	R	N	E	R	A	M	L	70
Pax6	I	Q	V	W	F	S	N	R	R	A	K	W	R	R	E	E	K	L	R	N	70
Dal	I	Q	V	W	F	Q	N	R	R	A	K	W	R	K	Q	E	K	V	G	P	70
Dprd	I	Q	V	W	F	S	N	R	R	A	R	L	R	K	Q	H	T	S	V	S	70
Drepo	V	Q	V	W	F	Q	N	R	R	A	K	W	R	K	H	E	P	P	R	K	70
Cunc4	V	Q	V	W	F	Q	N	R	R	A	K	W	R	K	R	E	Q	N	R	N	70

Figure 4